ENGLISH

USER MANUAL
OPTIMA-RACK 1K – 3KVA
ONLINE DOUBLE CONVERSION UPS

User Manual:

- 220V (Europe: «Schuko» Zone)
- 110V (America: «NEMA» Zone)

USER MANUAL
Optima Rack 1-3K

1. SAFETY AND USE:

WARNING: This product has been designed to operate safely and reliably for years. Nevertheless, as it is an electrical device, it is required to read and understand this manual. Keep manuals as references for future consults.

WARNING: This product has been designed to be used indoors, protected of water, direct sun light and extreme temperatures. This device must not be used outdoors, close to moisture of heat sources.

WARNING: Do not set objects on this UPS. Handle with care. Do not block UPS ventilation.

WARNING: Make sure to connect this unit to proper power line according to selected model. The UPS Technical Specs sticker shows power rating information. DO NOT connect this UPS to any of its own power outlets.

WARNING: UPS must be installed following instruction from this manual.
The manufacturer is not liable for any damage that might rise from misusing this unit or defective installation.

WARNING: Only computer related equipment can be connected to this UPS. DO NOT connect medical equipments, life support equipments, microwave ovens, vacuum cleaners, refrigerators, or any other appliance to this UPS.

WARNING: UPS must be checked, repaired and maintained by qualified personnel only. This product is locked by screws.

WARNING – ELECTRIC SHOCK RISK:
Inside the UPS there are dangerous high voltages even when disconnected of power line, due to internal batteries

WARNING: In case of emergency turn off the UPS pressing Power Button, unplug it and call technical support.

**DO NOT connect laser printers, scanners, or copiers to this UPS.
High power devices may damage this UPS.**

Disposal
We strongly recommend disposing this UPS according to regulations in your country to prevent possible environmental damages; besides some parts might be recycled.

BATTERY WARNING: DO NOT dispose batteries in fire as it might explode. DO NOT try to open batteries, there are dangerous liquids inside.

Safety Standards

OPTIMA & OPTIMA-RACK 1KVA - 1.5KVA

Low Voltage Directive:
EN62040-1-1:2003 An Uninterruptible Power Systems (UPS) Part 1-1: General and Safety Requirement for UPS use operator access areas

EMC Directives:
EN62040-2: 2006 An Uninterruptible Power Systems (UPS) Part 2: Electromagnetic compatibility Class 2 (EMC)
IEC 61000-4-2: 2001 Electrostatic discharge immunity test
IEC 61000-4-3: 2006 Radiated radio frequency electromagnetic field immunity test
IEC 61000-4-4: 2004 Electrical fast transients/Burst immunity test
IEC 61000-4-5: 2005 Surge immunity test
IEC 61000-2-2: 2002 Compatibility levels for low frequency conducted disturbances and signaling in public low voltage power supply systems
EN 61000-4-6: 2006
EN 61000-4-8: 2001
EN 61000-4-11: 2004

OPTIMA & OPTIMA-RACK 2KVA – 3KVA

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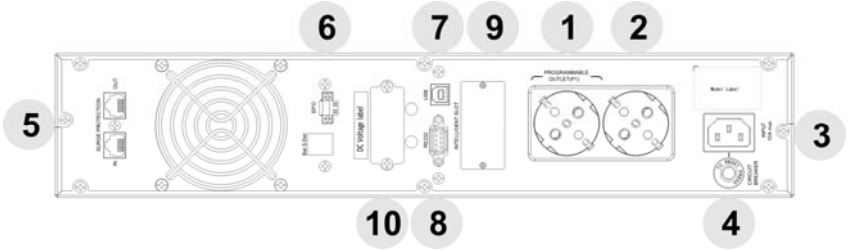
EN 61000-4-6: 2006
EN 61000-4-8: 2001
EN 61000-4-11: 2004

USER MANUAL
Optima Rack 1-3K

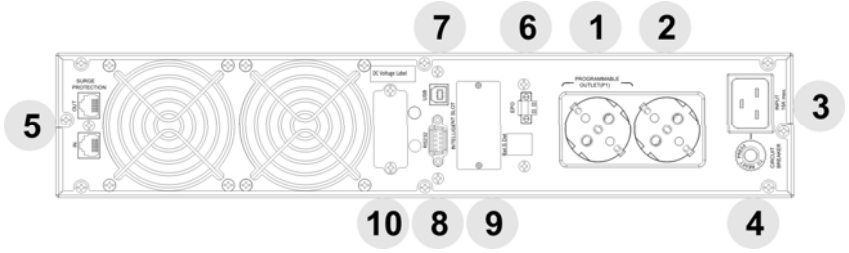
2.A- PRODUCT DESCRIPTION – REAR PANEL: 220V (EUROPE SCHUKO Outlets)

1. Programmable Outlets
2. Standard Outlets
3. AC Input
4. Input Breaker
5. Protected LAN network jacks
6. “EPO”: “Emergency Power Off”.
7. USB port
8. RS-232 port
9. Intelligent Slot for “SNMP” LAN cards
10. Connector for External batteries (EX models).

OPTIMA-RACK 1KVA / 1.5K / 2KVA



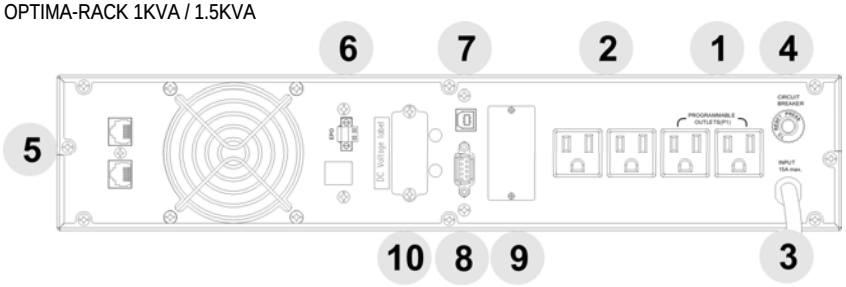
OPTIMA-RACK 3KVA



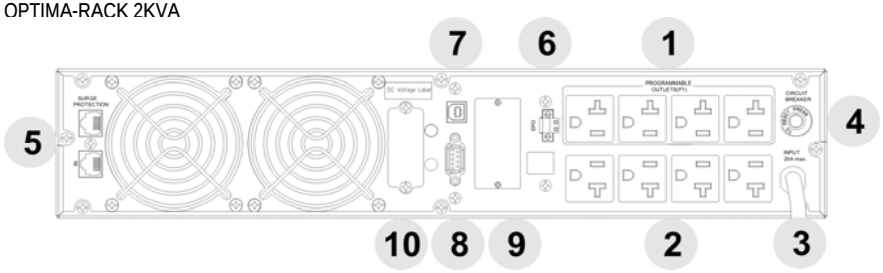
2.B- PRODUCT DESCRIPTION – REAR PANEL: 120V (AMERICA – NEMA Outlets)

1. Programmable Outlets
2. Standard Outlets
3. AC Input
4. Input Breaker
5. Protected LAN network jacks
6. “EPO”: “Emergency Power Off”.
7. USB port
8. RS-232 port
9. Intelligent Slot for “SNMP” LAN cards
10. Connector for External batteries (EX models)
11. Output Breakers.

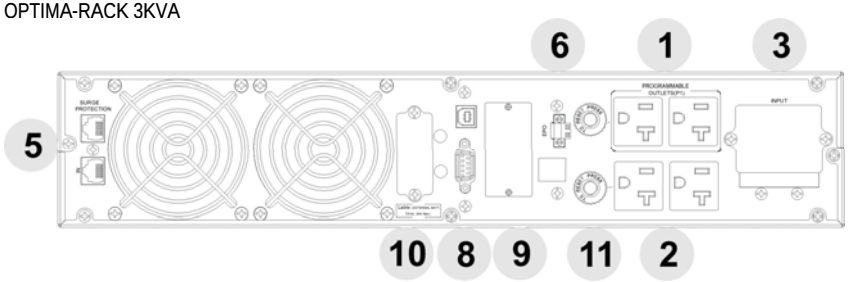
OPTIMA-RACK 1KVA / 1.5KVA



OPTIMA-RACK 2KVA



OPTIMA-RACK 3KVA



FRONT PANEL: PUSH BUTTON FUNCTIONS

“ON / MUTE”

a) POWER ON: Keep selected during 2 seconds or longer.
b) BEEP MUTE: In battery mode: Keep selected during 5 seconds or longer to Mute acoustic alarm beep. Some alarms cannot be muted as Bypass Warning or ERROR alarms.
c) AUTO-TEST: In normal mode: Keep selected during 5 seconds or longer to activate Auot-Test function.

“OFF / ENTER”

a) POWER OFF UPSAPAGADO DEL UPS: Keep selected during 2 seconds to power off UPS
b) ENTER: Enter function works under configuration mode only. It works as confirmation or selection key for accepting current option on LCD.

“SELECT”

a) TO SHOW UPS PARAMETERS AND VALUES: It is used to show on LCD UPS input and output values as AC Input, DC battery voltage, Input Frequency, UPS output, output frequency, etc.
b) TO ACTIVATE CONFIGURATION: Keep selected during 5 seconds or longer

“ON / MUTE” + “SELECT”

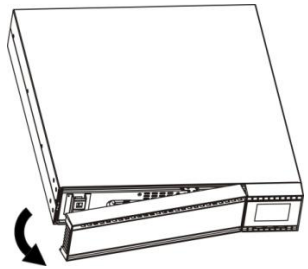
TO ACTIVATE BY-PASS MODE: Under normal mode, by selecting these 2 keys at the same time during 5 seconds or longer UPS changes from normal mode to bypass mode.

3. INSTALATION

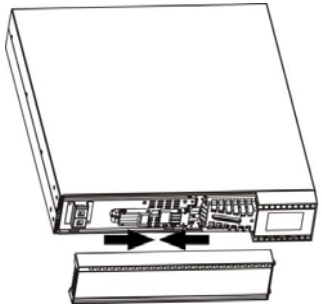
3.1.- INTERNAL BATTERIES CONNECTION BEFORE INSTALLING

Before installing this product internal batteries must be connected. This product is delivered with internal batteries disconnected to avoid battery damage during long storage times.

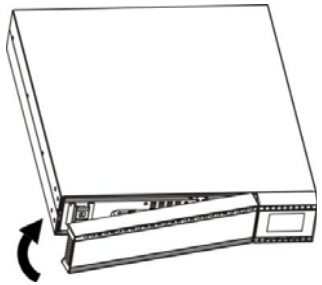
Step 1: Open and remove front cover



Step 2: Connect internal batteries to the UPS



Step 3: Close front panel



3.2.- RACK UPS INSTALLATION

Rack UPS must be installed using L-Shape type guides for supporting UPS weight. Usually this kind of supports is provided with rack cabinets. If not, XMART can provide telescopic guides as optional accessory.

Small black handles included with the UPS are only for locking purposes. UPS cannot be supported only by these handles.

- Figure 1: Rack cabinet must include L-shape guide to support UPS.
- Figure 2: UPS must be installed on L-shape guides.
- Figure 3: Handles included with UPS are only for locking UPS to the cabinet but not for supporting UPS weight.
- Figure 4: XMART offers telescopic guides as optional accessory if it is required.

Figure 1:

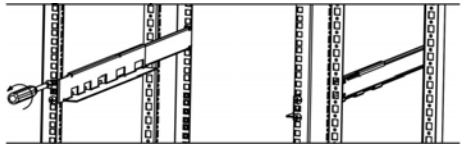


Figure 2:

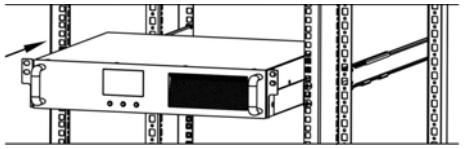


Figure 3:

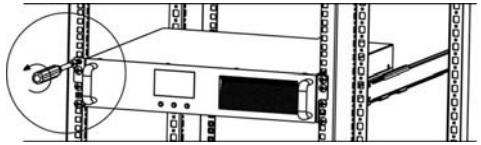
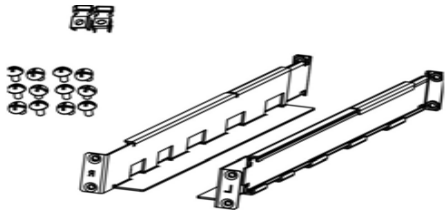


Figure 4:



First Time:
CHARGE BATTERIES FOR 6 HOURS BEFORE CONNECTING YOUR EQUIPMENTS TO UPS

- This product leaves factory with battery fully charged, however during transportation and storage it may loose a non determined part of its charge; therefore we recommend plugging it to Power Line for 6 hours before using the UPS.
- Install this unit in any protected environment with a dust free air flow. Also corrosive vapours and conductive contaminants must be avoided. Do not use UPS outdoors or where either temperature or humidity exceeds tech specs. Install UPS at least 10 inches away from your monitor to avoid magnetic interference.

1.- Plug input AC power cord to an appropriate power outlet with Line-Neutral-Ground contacts.

- Some models come with input power-cord with appropriate plug for your country.
- 3KVA in 120V could come with input terminal block. For 3KVA-120V models input cable to be connected to input Terminal Block must be AWG12 or wider (for lengths shorter than 50 feet – 15m). Wire size is strongly affected by length and temperature. Input wire must be selected and installed by qualified personnel according to local regulations.

2.- First time leave UPS recharging batteries during 6 hours before connecting your devices to the UPS to let batteries recover charging level to offer full battery backup time.

3.- Connect your devices to be protected to UPS outlets. Take care to not overload UPS output by connecting devices with higher power ratings than UPS power capacity. Laser printers, scanners and copiers frequently have two different power ratings: in stand-by power ratings are very low compared with consumption rating during operation. If this kind of products will be connected to the UPS operation power rating must be considering to size total power consumption to be connected to UPS.

4.- EPO Function: Emergency Power Off function allows to power off UPS outlets when EPO input is open. When EPO port is closed EPO function is disable. When EPO function is activated UPS will perform following actions:

a) Power Off all outlets,
b) Switch to STAND-BY mode,
c) Acoustic alarm is activated as continuous beep
d) Warning message Nº 20 is indicated on LCD.
To disable EPO mode and recovering normal mode contact switch or jumper in EPO port must be closed and UPS must be powered On by selecting ON push button.

EXTERNAL BATTERIES OPTION
OPTIMA models with EX mark (like OPTIMA 3K-EX or OPTIMA-RACK 3K-EX) are able to be connected to external battery cabinets (EX-BATT) to offer longer backup times.
This kind of models has internal batteries as other OPTIMA models but they can also be connected at any moment to EX-BATT supplied by XMART.
Special cables to connect EX-BATT to UPS are supplied inside the box of EX-BATT.

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3.3.- INSTRUCTIONS TO CONNECT EXTERNAL BATTERIES

1) Place EX-BATT case close to UPS. Only XMART approved EX-BATT can be connected to UPS EX series.
2) Check DC breakers are in OFF position (circuit OPEN)
3) Connect UPS to first EX-BATT using XMART approved DC cable.
4) If more than one EX-BATT will be connected, then connect first EX-BATT to second EX-BATT and so on in that way to other EX-BATT.
5) After all EX-BATT are connected, switch to ON position all DC breakers located in EX-BATT.

Important Note:
It is not recommendable to connect more than 3 external battery packs to the UPS since recharging time could be too long.

External Battery Cabinet Characteristics:

Model:EX-BAT-R3
Total Batteries: 12 pieces per cabinet: 2 internal packs of 6 batteries 12V-9AH
Voltage DC: 82.1Vdc +/- 1%
Application: OPTIMA-Rack 3K “EX”

4. CONFIGURABLE PARAMETERS
Any configuration modification must be applied with UPS connected to AC line but in OFF or STAND-BY mode.
This UPS can be configured to work under some different modes. Some important functions can also be configured in CONFIGURATION MODE:

a) Normal Mode: Also known as AC MODE. Under this mode UPS works as ONLINE UPS. UPS outlets are supplied by AC power generated by UPS inverter circuit offering a clean power to your devices.
b) ECO Mode: Under this mode UPS works as OFF-LINE UPS. UPS outlets are supplied by AC input source. UPS supervises input source to switch to ONLINE mode only when input source is out of range This is not a recommendable mode for those critical applications that require ONLINE UPS.

Default mode set as factory is NORMAL MODE (Online UPS).

c) Output Voltage: It can be configured to any of 4 available values:
In 120Vac Models: 110Vac, 115Vac, 120Vac, 127Vac,
In 220Vac Models: 208Vac, 220Vac, 230Vac ó 240Vac
d) Output Frequency: It can be selected to 50Hz or 60Hz. Default configuration allows auto-selection to match with frequency of input AC source.

NOTE: When conversion frequency mode is activated UPS power capacity can be reduced.

e) Programmable Outputs: There are 2 group of outlets:

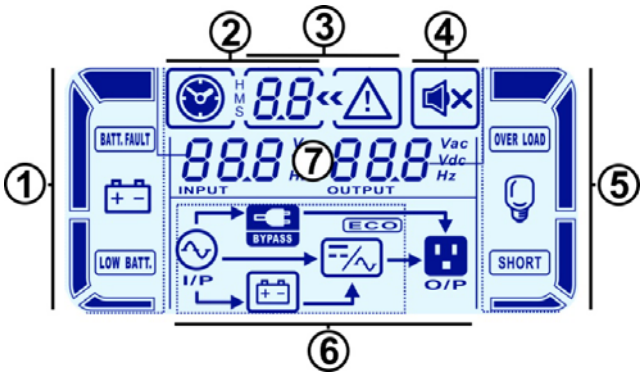
- Standard Outlets: They works as expected in any UPS. This kind of outlets under battery keep powered until batteries reach very low level or up to UPS receives power off command from software.
- Programmable Outlets: If programmable outlets function is configured, programmable outlets can be powered off by internal timer before UPS detects very low battery level. Most common application for programmable outlets is for connecting non critical devices to them so that backup time can be longer for those critical devices connected in standard outlets.

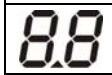
5. OPERATION

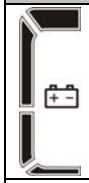
This is UPS is ONLINE DOUBLE CONVERSION type and it has been designed to offer the most clear power without switching transitions or dead times. In that way your hardware but also your valuable data will be safe when your PC related equipment is connected to OPTIMA series UPS.
Power output is sine-wave type same as supplied by AC main source.
Depending of AC input source, this UPS can work under one of two following modes:

Normal AC Mode: It is the default mode when AC input source is OK. Under this mode power output is generated by UPS inverter. Inverter takes power from AC/DC converter feed by AC input source. AC input source is only used under this mode to recharging batteries when necessary.
Battery Mode: Also known as Inverter Mode. It is the mode when AC input source is out of range or black-out is detected by the UPS. Under this mode power output is generated by UPS inverter that takes power from batteries. There is no dead time (transition time is ZERO ms) related to switching from normal mode to battery mode since load is always powered from inverter. This is main characteristic of an ONLINE UPS.
ECO Mode: This UPS also offer a third operation mode name ECO MODE. Under this mode (selectable by LCD configuration menu) UPS works as OFF-LINE UPS. Load is powered from AC input and UPS only switch to battery mode when input is out of range or in black-out status. Transition time from ECO mode to Battery mode is not zero. Typically is about 4ms that is why ECO Mode is not recommended for critical applications.

6. FRONT LCD PANEL



Running Time in Battery Mode	
	Time symbol when battery mode is active
	Indicates time in battery mode: H: hours, M: minutes, S: seconds
Failure Messages	
	Indicates failure detected
	Indicates number code for detected failure. Error or Failure codes are listed in this manual.
"MUTE"	
	Indicates MUTE function is active. Under this mode beeper is disabled.
OUTPUT Information	
	Indicates output values related to AC voltage, output frequency Vac: Volts AC, Vdc: Volti DC, Hz: frequency units

Power consumption (connected to UPS outlets)I	
	Indicates power output supplied by UPS: 0-25%, 26-50%, 51-75% y 76-100%.
OVER LOAD	Indicates overload at UPS output. Devices connected in UPS outlets load UPS above UPS capacity.
SHORT	Indicates short circuit at UPS output.
Programmable Outputs	
P1	Indicates programmable function is activated.
Operation Mode	
I/P	Indicates UPS is connected to input AC source under normal range..
	Indicates UPS is in battery mode.
BYPASS	Indicates UPS is in BYPASS mode.
ECO	Indicates ECO Mode is active
	Indicates UPS inverter is running.
O/P	Indicates UPS outlets are powered.
Battery Information	
	Indicates battery charging level: 0-25%, 26-50%, 51-75% y 76-100%.
BATT. FAULT	Indicates battery failure
LOW BATT.	Indicates low battery level
Input Information	
88.8 Vac Vdc Hz INPUT 12	Indicates input voltage, input frequency and DC battery voltage Vac: Input voltage, Vdc: battery voltage, Hz: input frequency

BEEP ALARM

Battery Mode:	1 “Beep” every 4 seconds
Battery Low:	1 “Beep” per second
Output Overload:	2 “Beeps” per second
UPS Failure:	Continuous Beep
By-Pass Mode:	1 Beep every 10 seconds.

7. LCD TEXT MESSAGES

TEXT	LCD TEXT	Meaning
ENA	ENA	Enable (Habilitado)
DIS	dIS	Disable (Des-habilitado)
ESC	ESC	Escape (Salir)
HLS	HLS	High Limit for Baypass (Límite Alto para Bypass)
LLS	LLS	Low Limit for Baypass (Límite Bajo para Bypass)
BAT	bAt	Battery (Batería)
CF	CF	Converter (Convertidor de Frecuencia)
EP	EP	EPO (Emergency Power Off)
FA	FA	Fan (Ventilador)
TP	tP	Temperature (Temperatura)
CH	CH	Charger (Cargador de Baterías)

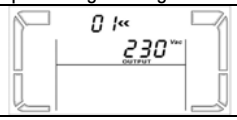
8. UPS CONFIGURATION

* Configuration menu is activated by selecting SELECT push button at front panel during 5 seconds or longer. UPS must be connected to input AC source but in stand-by mode (powered off).
* "OFF/Enter" button is used as confirmation key (Enter)
* "ON/Mute" is used to select upper option in menu.
* "SELECT" is used to select bottom option in menu.

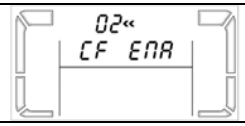
Configuration Menu:

00: Initial Menu, Quit option
01: Output Voltage
02: CF Frequency Conversion Mode (to able or disable)
03: CF for configuring frequency value in Hz
04: ECO: to Able or Disable ECO Mode
05: ECO: To configure acceptable input voltage range in ECO mode.
06: By Pass: To able or disable by-pass function
07: By Pass: To configure acceptable input voltage range.
08: Programmable Outlets: To able or disable programmable outlets function
09: Programmable: To configure timer value in minutes for programmable outlets.

01: Output Voltage Configuration

	Output voltage value can be selected from 4 available values

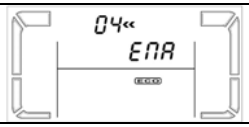
02: CF: Enable or Disable

	CF ENA: CF function enable CF DIS: CF function disable

03: CF: Frequency value in Hz

	Output frequency can be configured for battery mode: BAT 50: 50Hz BAT 60: 60Hz If CF function is enable output frequency can be set in normal mode: CF 50: 50Hz CF 60: 60Hz

04: ECO: Enable or Disable

	ENA: ECO enable (ON) DIS: ECO disable (OFF)

05: ECO: Input Range Configuration

	By Selecting UP/DOWN ("on/mute" y "select") keys for selecting hi limit HLS and low limit LLS of input range in ECO mode.

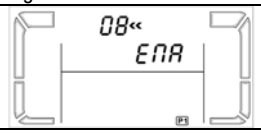
06: By Pass: Enable or Disable

	ENA: Bypass enable DIS: Bypass disable

07: By Pass: Input Range Configuration

	By Selecting UP/DOWN ("on/mute" y "select") keys for selecting hi limit HLS and low limit LLS of input range in By-Pass mode.

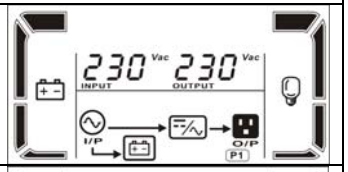
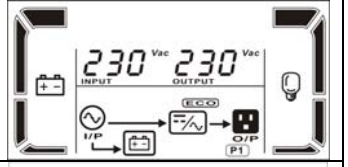
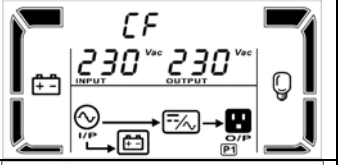
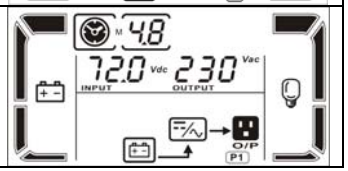
08: Programmable Outlets: Enable or Disable

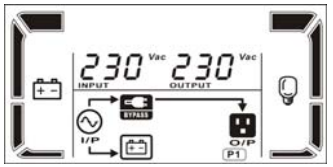
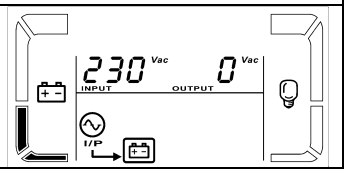
	ENA: to enable programmable function. DIS: to disable programmable function.

09: Programmable Outlets: Timer setting

	0-999: to configure timer limit in minutes for powering off programmable outlets.

9. LCD screens depending of Operation Mode

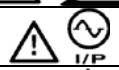
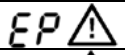
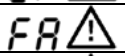
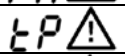
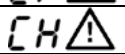
Operation Mode	Description	LCD
ONLINE	* UPS ON * Input AC source OK * UPS output generated by inverter	
ECO	* UPS in ON * ECO mode activated. * Input AC source is OK * UPS output feed from AC input to save energy.	
	* UPS in ON * ECO mode activated. * Input AC source out of acceptable range * UPS output generated by inverter.	
FREQUENCY CONVERTER FUNCTION	CF function enable to generate output frequency as selected.	
BATTERY MODE	When AC input source is out of range Ups goes to battery mode to supply output from taking energy from batteries.	

BYPASS	If UPS is overloaded by big consuming load connected at UPS output, UPS changes to BYPASS mode feeding outlets from input AC source. This mode can be set also by front panel (by selecting "ON/MUTE" + "SELECT" at same time).	
STAND-BY	* UPS is OFF * No power in UPS outlets. * Input AC source is OK. * Batteries are been charged	

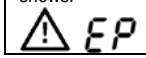
10. ERROR / FAILURE CODES ON LCD

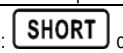
FAILURE / ERROR	CODE	ICON
Bus failure	01	
Hi BUS Voltage	02	
Low BUS Voltage	03	
Bus Unbalanced	04	
Soft-start Inverter Failure	11	
Inverter: Hi Voltage	12	
Inverter: Low Voltage	13	
Inverter output short circuit	14	SHORT
Battery Very High Voltage	27	BATT. FAULT
Battery Very Low Voltage	28	BATT. FAULT
Over Temperature	41	X
Overload: UPS power output capacity has been exceeded. Inverter cannot supply output.	43	OVER LOAD

11. ALARMS ON LCD

ALARM Description	ICON on LCD	Beep Alarm
Low battery		1 / s
Overload: hi power consumption detected at UPS output.		2 / s
Battery disconnected		1 / s
Batteries overcharged		1 / s
Input Cable failure		1 / s
EPO enable		1 / s
FAN failure		1 / s
Over Temperature		1 / s
Battery charger problem		1 / s
Input out of range in bypass mode		1 / s

12. TROUBLESHOOTING TABLE

Problem Description	Probable Root Cause	Suggested Action
* LCD does not show input voltage value * AC input failure alarm active (1 beep / 4s) however AC input source is OK	Input power cord is not connected	Check input power cord connection.
	Input power cord is connected into UPS outlet.	Check input power cord connection.
UPS cannot be powered on even AC input is OK. Beep alarm is active (1 beep/s) & LCD shows: 	EPO function is active.	Re-establish emergency power off switch and set UPS in normal mode.

UPS cannot be powered on even AC input is OK.	ON push button is not been selected properly	Push ON button during 2 seconds or longer
1 beep / s alarm is active and LCD shows: 	Input Line and Neutral are swapped	Rotate UPS plug at wall socket to allow correct line-neutral connection. This suggestion is only valid for Schuko power plug type.
1 beep / s alarm is active and LCD shows: 	Internal or external batteries are not properly connected	Check battery connection.
* Code 27 * Active: * Continuous beep	Very high voltage at batteries or charger failure	Batteries and charger must be inspected by qualified personnel
* Code 28 * Active: * Continuous beep	Very low voltage at batteries or charger failure	Batteries and charger must be inspected by qualified personnel
* Intermittent: + * 2 beeps per second.	UPS overloaded	Disconnect devices from UPS outlets until solving overload
* Intermittent: + * 2 beeps per second. * By-Pass activated	UPS overloaded. UPS has changed to BYPASS mode to avoid internal damage.	Disconnect devices from UPS outlets until solving overload
	After repetitive small overloads, UPS has changed to BYPASS mode.	Disconnect devices from UPS outlets until solving overload. Then power off UPS and re-star again.
* Code 43 * Active: * Continuous beep	UPS has been automatically powered off because overload.	Disconnect devices from UPS outlets until solving overload. Then power ON.
* Active:  on LCD. * Continuous beep	UPS has been automatically powered off because short circuit detected at output.	Check short circuit problem in devices connected to UPS

* Any of following codes indicated on LCD: 1, 2, 3, 4, 11, 12, 13 o 41 * Continuous beep	Internal Ups failure detected. UPS working in any of following modes: 1. UPS output powered in BYPASS mode 2. UPS outlets powered off	Call service support
Very short backup time	Batteries can be discharged because recent use..	Let UPS recharge batteries during 6 hours before check backup time again.
	Battery can be degraded because long lifetime.	Batteries must be replaced by new batteries.
* Intermittent: ⚠ + FA * 1 beep per second.	FANs blocked or damaged	Check FANs and call service support if problem cannot be solved

13. CONTROL SOFTWARE

Our control software offers huge capabilities to monitor your UPS and configure key shutdown parameters. Also event and data log are available in software options.
Main software features are:

- Friendly human interface to UPS.
- Controlled files saving and OS shutdown when blackout is detected.
- Configurable scheduled shutdown and Auto-tests

Some UPS models include software CD inside the box. Others allow software downloaded from our website: www.xmart-ups.com.

USER MANUAL
Optima Rack 1-3K

14. WARRANTY AND SUPPORT

Support: When a failure or problem is detected please check troubleshooting table in this manual. If problem cannot be solved please contact authorized service center or authorized dealer.

Batteries: Rechargeable batteries can be charged and discharged hundreds of times. However they will eventually wear out. This is not a defect or failure so that batteries wear out is not covered by warranty.
Battery lifetime will depend of operative conditions like working temperature and type and frequency of discharging cycles. Higher the temperature shorter will be the lifetime. Frequent and deep discharging cycles also will short lifetime. For critical applications batteries should be revised and replaced periodically.
Long storage without required recharging will wear out batteries. This situation is not covered by this limited warranty since this is not considered as a defect. Check recharging instructions on user manual.

Conditions Limited Warranty "Xmart-PRO11"

1.- Subject to the conditions of this limited warranty, this product is warranted to be free from defects in materials and workmanship at the time of its original purchase by end user and for subsequent period of 1 year on electronic parts and 1 year on batteries. This standard warranty time could be extended depending on the country/region or as an option. Please check warranty times by country/region in our web www.xmart-ups.com.
2.- If during the warranty period, this product fails to operate under normal use and service, due to defects in materials or workmanship, authorized distributor or service center will, at their option, either repair or replace the product in accordance with terms and conditions stipulated herein. Transportation expenses are not covered by this limited warranty.
3.- Warranty is valid only if the original purchasing document issued to original purchaser by authorized distributor or dealer, specifying date of purchase, serial number and name of the dealer, is presented with the product to be revised. XMART and authorized partners reserve the right to refuse warranty service if any of this information has been removed, changed or missing in original purchasing document.
4.- If product is repaired or replaced, repaired or replaced product will be warranted for the remaining time of the original warranty or for 90 days from date of repair or replacement, whichever is longer.
5.- XMART or their distribution/service partners reserve the right to charge handling fee if returned product is free of failure or out of warranty period because any of the reasons described in this warranty.
6.- If product is out of warranty a reparation or replacement proposal will be sent to the user for his approval. If customer does not approve reparation, `product will be available to be picked up during 60 days. After this period product would be disposed by service center and user will not be able to rises any claim.
7.- Rechargeable batteries will definitively wear out even under normal operation and conditions. This is not a defect or failure so that it is not covered by this warranty.
8.- Warranty does not cover product failures caused by: improper storage or longer than 6 months storage without required recharging, inadequate installation or maintenance, misuse, accidents, fire or floods. In these cases warranty will be considered void.
9.- This warranty does not cover product failures caused by installations, modifications or repair or opening of the product performed by non authorized person.
10.- This product can include protection devices like input fuse or input breaker. Activation of this kind of devices is not a failure it is caused by an improper product installation. Input fuse or breaker can be easily reset or replaced by user.
11.- This warranty does not cover damages produced during transportation from user to technical service caused by improper packing of the product by user.
12.- Warranty time could be extended depending on market or products. Contact your authorized dealer for additional information.
13.- Warranty terms and conditions cannot be modified or extended by third parties without written approval of XMART.

Limited Warranty "Xmart-PRO11"

- If hardware product fail to work as warranted above, the maximum liability of XMART under this limited warranty is expressly limited to the lesser of the price you have paid for the product or the cost of repairing or replacement of any hardware components that malfunction in conditions of normal use.
- In no event will XMART be liable for any damages caused by the product or the failure of the product to perform, including any lost profits or savings or special, incidental, or consequential damages. XMART is not liable for any claim made by a third party or made by you for a third party.
- XMART does not warrant that the operation of this product will be uninterrupted or error-free. XMART is not responsible for damage that occurs as a result of your failure to follow the instructions intended for this hardware product.

15. BATTERIES MAINTENANCE NAD REPLACEMENT

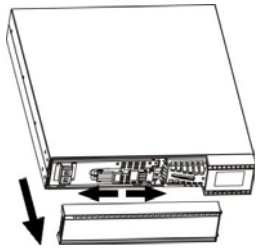
15.1.- Battery Care

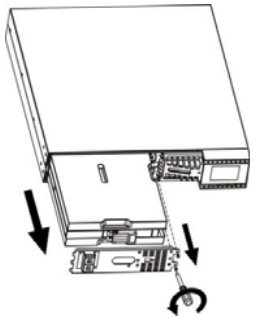
When battery backup time is noticeable shorter it is time to replace batteries. To get longer lifetime we recommend applying a deep discharge every 3 months. Operation temperature should be below 25ºC. When UPS is storage periodic recharge must be performed as indicated in below table:

Storage Temperature	Recharge Frequency	Recharge Time
-25°C to +30°C	3 months	6 hours
+30°C to +45°C	2 months	6 hours

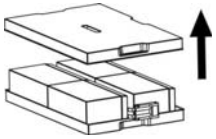
15.2.- Batteries Replacement:
This UPS has been designed to allow easy and safety battery replacement

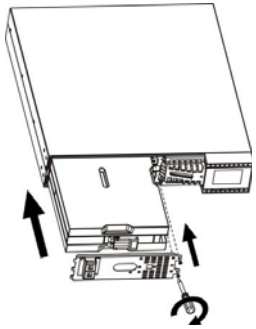
Step 1: Remove front cover and disconnect internal batteries	Step 2: Take out battery kit from UPS



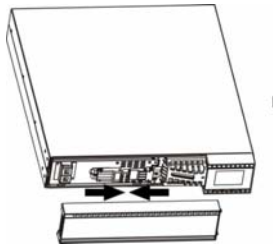


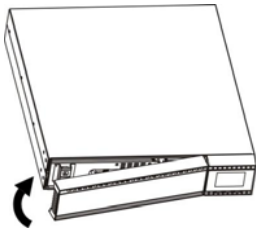
Step 3: Replace old batteries using equivalent batteries with same voltage and capacity in AH. Follow instructions of 15.3	Step 4: Reconnect batteries, assembly battery kit and install it inside the UPS.





Step 5: Reconnect battery kit to UPS	Step 6: Close front cover

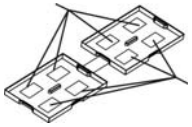




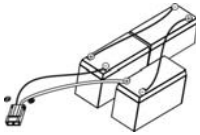
15.3.- Battery Assembly Instructions:
Battery quantity depends of UPS model. Check specification table to know battery quantity and type for your UPS.

3 Batteries Kit

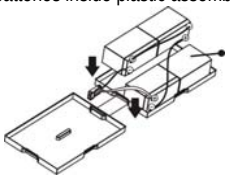
1.- Remove batteries from plastic assembly



2.- Connect new batteries in series as indicated below



3.- Place batteries inside plastic assembly

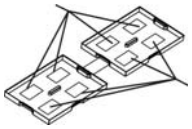


4.- Close battery assembly

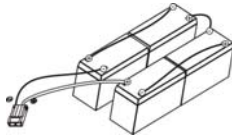
5.- Using a DVM, check battery assembly DC voltage is closet o 37.5 Vdc (3 x 12.5Vdc each). If measured voltage is not correct probably there is a wrong connection. Check, correct and confirm.

4 Batteries Kit

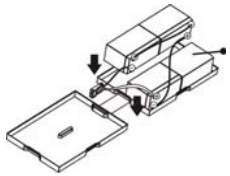
1.- Remove batteries from plastic assembly



2.- Connect new batteries in series as indicated below



3.- Place batteries inside plastic assembly

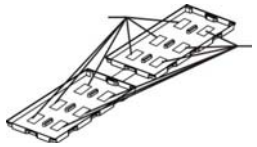


4.- Close battery assembly

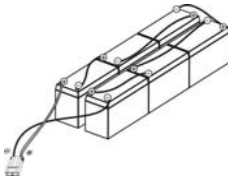
5.- Using a DVM, check battery assembly DC voltage is closet o 50 Vdc (4 x 12.5Vdc each). If measured voltage is not correct probably there is a wrong connection. Check, correct and confirm.

6 Batteries Kit

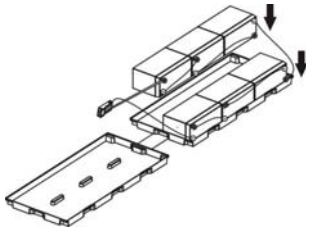
1.- Remove batteries from plastic assembly



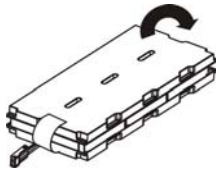
2.- Connect new batteries in series as indicated below



3.- Place batteries inside plastic assembly



4.- Close battery assembly



5.- Using a DVM, check battery assembly DC voltage is closet o 75 Vdc (6 x 12.5Vdc each). If measured voltage is not correct probably there is a wrong connection. Check, correct and confirm.

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16. SPECIFICATIONS TABLE (For Models 120Vac and 220Vac)

OPTIMA-RACK UPS	1KVA	1.5KVA	2KVA	3KVA
Capacity / Capacidad	1100VA / 800W	1700VA / 1200W	2250VA / 1600W	3400VA / 2400W
INPUT / ENTRADA				
Range / Rango - Vac @ 100% load	Model 120V: 80Vac-150Vac - Model 220V: 160Vac-300Vac			
Range / Rango - Vac @ 50% load	Model 120V: 50Vac-150Vac - Model 220V: 110Vac-300Vac			
Frequency Range / Rango de Frecuencia	45 Hz - 65Hz			
Power Factor / Factor de Potencia	> 0.99			
Input Current THDi / THDi de Corriente de Entrada	< 7% @ 100% load			
OUTPUT / SALIDA				
Voltage Output / Voltaje de Salida AC:	Model 120V: 110/115/120/127Vac - Model 220V: 208/220/230/240Vac			
Output Regulation / Rango de Salida:	+/-1%			
Frequency / Frecuencia (Batt. Mode)	(*N3) 50 Hz +/- 0.2 Hz - 60Hz +/- 0.2 Hz			
Current Crest Ratio / Factor de Cresta	3:1			
Harmonic Distortion / Dist. Armónica (THD)	< 2% @ Linear Load / Carga Lineal - < 6% @ Non Linear Load / Carga NO Lineal			
AC to Inverter / Tiempo de AC a Inversor	0 ms			
Waveform / Forma de Onda	Pure Sinewave / Sinusoidal Pura			
EFFICIENCY / EFICIENCIA				
ECO Mode	> 93%		> 93%	
AC Mode / Modo AC	> 86%		> 88%	
BATTERIES / BATERIAS				
Type / Tipo	Sealed Lead Acid VRLA-AGM / Sellada de Libre Mantenimiento VRLA-AGM			
Capacity-Qty / Capacidad-Cantidad (120Vac)	12V/7AH x 3 pcs	12V/9AH x 3 pcs	12V/7AH x 6 pcs	12V/9AH x 6 pcs
Charging Voltage / Voltaje Cargador (120Vac)	41.0 VDC ± 1%	41.0 VDC ± 1%	82.1 VDC ±1%	82.1 VDC ±1%
Capacity-Qty / Capacidad-Cantidad (220Vac)	12V/9AH x 2 pcs	12V/9AH x 3 pcs	12V/9AH x 4 pcs	12V/9AH x 6 pcs
Charging Voltage / Voltaje Cargador (220Vac)	27.4 VDC ± 1%	41.0 VDC ± 1%	54.8 VDC ±1%	82.1 VDC ±1%
Typical Recharge Time / T. de Recarga	4 Hours for 90% capacity / 4 Horas para recuperar el 90% de carga			
Charging Amps / Corriente de Carga	1.0 A (Max.)			
INDICATORS / INDICADORES				
LCD / Pantalla de Cristal Liquido (LCD)	UPS Mode, Load level, Battery, Input/Output, Discharge timer & Fault messages.			
PHYSICAL / FISICAS				
UPS RACK Type (Model 120Vac)				
Total Power Outlets / Total Salidas:	NEMA 15 x 4	NEMA 15 x 4	NEMA 15 x 8	NEMA 20x 4
D X W X H / Prof. X Ancho X Altura	480x438x88mm [2U]	480x438x88mm [2U]	600x438x88mm [2U]	600x438x88mm [2U]
Net Weight / Peso Neto (kgs)	18.4	18.5	25.7	29
UPS RACK Type (Model 220Vac)				
Total Power Outlets / Total Salidas (220Vac):	CEE 7/4 (Schuko) x 2		CEE 7/4 (Schuko) x 2	
D X W X H / Prof. X Ancho X Altura	380x438x88mm [2U]	480x438x88mm [2U]	480x438x88mm [2U]	600x438x88mm [2U]
Net Weight / Peso Neto (kgs)	13.2	18.5	20.6	29
External Battery Cabinet (Tower)		480x438x88mm [2U]	600x438x88mm [2U]	
Batt. Capacity-Qty / Capacidad-Cantidad Baterías		12V-9AH x 6		12V-9Ah x 12
OPERATING / CONDICIONES DE OPERACIÓN				
Operation Humidity / Humedad de Operación	< 95 % RH (non-condensing / no condensante)			
Operating Temperature / Temp. de Operación	0 - 40 ºC			
Noise Level / Ruido Producido	< 45dBA @ 1 m			
COMMUNICATION / COMUNICACION				
Smart RS-232 & USB	Win 98 SE/ME/NT 4.x/2000/2003/XP/ Vista/2008 / Win; Linux; Unix; Mac OS			
Intelligent Port:	LAN Card SNMP type - optional / Comunicación con LAN mediante SNMP opcional AS400 Interface (optional comm. Card) / Interfaz con AS400 (tarjeta opcional)			